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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/690,636

10/23/2003

Yaw-Ming Tsai

742433-49

9152

22204

7590

01/11/2006

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EXAMINER

WON, BUMSUK

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

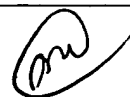
**Office Action Summary**

Application No.

10/690,636

Applicant(s)

TSAI ET AL.



Examiner

Bumsuk Won

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

The amendment filed on 11/21/2005 has been entered.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1-3 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Sugiura (2004/0012980).**

Regarding claim 1, Sugiura discloses an OLED (figure 5), comprising: a substrate (1); a reflective layer (14) disposed on the substrate; a first electrode (13) disposed on the reflective layer, a contact surface (15) between the reflective layer and the first electrode being a rough surface (paragraph 126); an organic layer (4) disposed on the first electrode; and a transparent second electrode (5) disposed on the organic layer. The phrase "as a bias voltage is applied to the OLED via the first electrode and the transparent second electrode, the organic layer emits radiation in multiple directions, the reflective layer reflects the radiation toward the transparent second electrode" is an operational limitation which Sugiura discloses in paragraph 136. The phrase "so as to

reduce color shift with a wide viewing angle” is a functional limitation, and it does not have a patentable weight since it does not affect the structural limitation of the claim.

Regarding claim 2, Sugiura further discloses in paragraph 103, the reflective layer is made of a metal film made of aluminum, silver, or the compound of aluminum or silver.

Regarding claim 3, Sugiura further discloses in paragraphs 6-9, the organic layer is composed of a plurality of compound layers, the plurality of compound layers comprise electronic layer (figure 26,74), hole transport layer (73) and light emitting layer (figure 27, 87).

Regarding claim 6, Sugiura further discloses in paragraph 101, a cap layer (figure 1, 7) disposed on the transparent second electrode (5).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 4-5, 7, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura (US 2004/0012980) in view of Kanou (US 2004/0070709).**

Regarding claim 4, Sugiura discloses all of the claimed limitations except for a switch disposed between the substrate and the reflective layer, wherein the switch is

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electrically coupled to the first electrode for controlling the radiation of the top emission OLED. Kanou discloses in an analogous art, a switch (figure 1, 44) disposed between a substrate (40) and a reflective layer (the side of 48 which is away from the substrate), wherein the switch is electrically coupled to the first electrode (48), for the purpose of preventing deterioration of the switching element during production (abstract). The phrase "for controlling the radiation of the top emission OLED" is an operational limitation, and it does not have a patentable weight since it does not affect the structural limitation of the claim. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a switch disposed between a substrate and a reflective layer, wherein the switch is electrically coupled to an electrode disclosed by Kanou in the OLED disclosed by Sugiura, or the purpose of preventing deterioration of the switching element during production.

Regarding claim 5, Kanou discloses in figure 1, the switch is a thin film transistor (44). The reason for combining is the same as for claim 4 above.

Regarding claim 7, Sugiura discloses an OLED (figure 5), comprising: a substrate (1); a reflective layer (14) disposed on the substrate; a first electrode (13) disposed on the reflective layer, a contact surface (15) between the reflective layer and the first electrode being a rough surface (paragraph 126); an organic layer (4) disposed on the first electrode; and a transparent second electrode (5) disposed on the organic layer. The phrase "as a bias voltage is applied to the first electrode and the transparent second electrode, the organic layer emits radiation in all directions, the reflective layer reflects the radiation toward the transparent second electrode for increasing brightness

of the top emission OLED” is an operational limitation which Sugiura discloses in paragraph 136. The phrase “so as to reduce color shift with a wide viewing angle” is a functional limitation, and it does not have a patentable weight since it does not affect the structural limitation of the claim. However, Sugiura does not disclose the substrate having a thin film transistor; a planarization layer disposed on the substrate covering the thin film transistor; the reflective layer disposed on the planarization layer; the first electrode electrically coupled to the thin film transistor. Kanou discloses in an analogous art, a substrate (figure 1, 40) having a thin film transistor (44); a planarization layer (45) disposed on the substrate covering the thin film transistor; a reflective layer (the side of 48 which is away from the substrate) disposed on the planarization layer; an electrode (48) electrically coupled to the thin film transistor (figure 1). The reason for combining is the same as for claim 4 above.

Regarding claim 9, Sugiura further discloses in paragraph 103, the reflective layer is made of a metal film made of aluminum, silver, or the compound of aluminum or silver.

Regarding claim 10, Sugiura further discloses in paragraphs 6-9, the organic layer is composed of a plurality of compound layers, the plurality of compound layers comprise electronic layer (figure 26, 74), hole transport layer (73) and light emitting layer (figure 27, 87).

Regarding claim 11, Sugiura further discloses in paragraph 101, a cap layer (figure 1, 7) disposed on the transparent second electrode (5).

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact information***

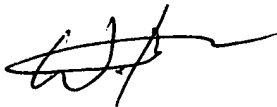
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bumsuk Won whose telephone number is 571-272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bumsuk Won  
Patent Examiner



**JOSEPH WILLIAMS**  
**PRIMARY EXAMINER**